Product Specification

24-Port 10/100/1000Mbps 802.3at PoE+ Web Smart Ethernet Switch

GSW-2400HPS

Version 1.0

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Change History:

Revision:	Date:	Author:	Change List
Version 1.0	2013/4/17	Marc Liao	Initial Release

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Reviewed By:	Kent Kang	**Approved By:**	Tom Shih

1. PRODUCT DESCRIPTION

Cost-Optimized Web Smart PoE+ Switch for Small and Medium Businesses

The PLANET GSW-2400HPS is an ideal PoE Switch, which provides cost-effectiveness advantage to local area network and is widely accepted in SMB office network. It offers intelligent Layer 2 data packet switching and management functions, friendly web user interface and stable operation. The model complies with IEEE 802.3at Power over Ethernet Plus(PoE+) at an affordable price.

The GSW-2400HPS is equipped with 24 10/100/1000Base-T gigabit Ethernet ports integrating with 802.3at PoE+ injector function on all ports. It offers a rack-mountable, affordable, safe and reliable power solution for SMB deploying Power over Ethernet networks, or requiring enhanced data security and network traffic management.

IEEE 802.3at/af Compliant Power Source Switch

The PoE in-line power following the IEEE 802.3at/af standard makes the GSW-2400HPS able to deliver gigabit speed data and up to 30 watts of power per port to 24 PoE compliant powered devices (PDs) with a combined power output budget of up to 300 watts.

The GSW-2400HPS provides more flexibility in power requirement for all kinds of PDs with affordable installation costs; it perfectly satisfies the PoE IP camera which needs high power consumption such as IR, PTZ, Speed Dome cameras or even Box type IP cameras with built-in fan and heater.

Robust Layer 2 Features

The GSW-2400HPS can be programmed for advanced switch management functions such as IEEE 802.1Q VLAN, QoS, static trunk group, port mirroring, port isolation, in band / out band bandwidth control, jumbo frame setting, loop protection, Green Networking, and static MAC, storm control. The GSW-2400HPS provides 802.1Q Tagged VLAN, and the VLAN groups allowed will be maximally up to 32. Via aggregation of supporting ports, the GSW-2400HPS allows the operation of a high-speed trunk combining multiple ports. It enables maximum up to 8 groups of 4 ports for trunking and supports fail-over as well. The advanced features of QoS and network security included enable the GSW-2400HPS to offer effective data traffic control for Enterprises, Government or campus another common Ethernet environment application.

Friendly Web-Based Management

For efficient management, the GSW-2400HPS is equipped with friendly Web interface for remote monitoring. It can be programmed for advanced switch management functions such as port configuration, 802.1Q VLAN, port trunk, QoS, bandwidth control, storm control and loop protection. These features provide a cost-effective way to manage the network devices through the Internet whenever you are at work or at home.

Also the GSW-2400HPS supports configuration backup / restore function, this feature will help network administrator to easily deploy multi GSW-2400HPS devices quickly.

Quick and Easy PoE Network Deployment

The PoE capabilities provided also helps to reduce deployment costs for network devices as a result of freeing from restrictions of power outlets on the wall, ceiling or any unreachable place. Power and data switching are integrated into one unit, delivered over a single Ethernet cable at the distance up to 100 meters. It thus eliminates cost for additional AC wiring and reduces installation time.

Energy-Saving Design

The GSW-2400HPS uses new engine that incorporates two advanced Green Networking technologies:

- **Idle Mode Link Down power saving**
- **Intelligent Scales Power based on cable length**

The Idle mode Link Down power saving of the GSW-2400HPS complies with IEEE 802.3az Energy Efficient Ethernet (EEE) standard to automatically lower power for a given port when it is not linked. The Intelligent Scales Power technology actively determines the appropriate power level based on the cable length. When connecting to the GSW-2400HPS with Ethernet cable shorter than 20m, a device can obtain maximum power saving because the GSW-2400HPS would automatically detect the Ethernet cable length and reduce power usage. The connected device can substantially reduce the overall power consumption, which makes a significant contribution to energy saving.

2. PRODUCT FEATURES

➢ **Physical Port**

- 24-Port 10/100/1000Base-T RJ-45 copper with IEEE 802.3at / 802.3af Power over Ethernet Injector function
- Reset button for system factory default

➢ **Power over Ethernet**

- Complies with IEEE 802.3at High Power over Ethernet PSE
- Complies with IEEE 802.3af Power over Ethernet PSE
- Up to 24 ports of IEEE 802.3af / 802.3at devices powered
- Supports PoE Power up to 30.8 watts for each PoE port
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100m

➢ **Layer 2 Features**

- Prevents packet loss with back pressure (Half-Duplex) and IEEE 802.3x PAUSE frame flow control (Full-Duplex)
- High performance of Store-and-Forward architecture and runt/CRC filtering eliminates erroneous packets to optimize the network bandwidth
- Supports VLAN
  - IEEE 802.1Q Tagged VLAN
  - Up to 32 VLANs groups, out of 4094 VLAN IDs
- Supports Static Trunk
  - Maximum 8 trunk groups, up to 4 ports per trunk group
  - Up to 8Gbps bandwidth (Duplex Mode)
- Provides Port Mirror (many-to-1)
- Port Mirroring to monitor the incoming or outgoing traffic on a particular port
- Port Isolation
- 1522 / 1536 / 1552 / 9216bytes Jumbo packet setting
- Loop Prevention / Detection
- Ethernet Link Energy-Saving technology
  - Link down power saving
  - Intelligent scales power based on cable length

➢ **Quality of Service**

- Ingress / Egress Rate Limit per port bandwidth control
- 4 priority queues on all switch ports
- Traffic classification:
  - Port-based priority
- Strict priority and Weight Fair Queue / Weighted Round Robin (WRR) policies

➢ **Security**

- Storm Control support
  - Broadcast / Multicast / Unknown-Unicast / Unknown-Multicast
- MAC Security
  - MAC Forwarding Table
  - Static MAC
- MAC Constrain

➢ **Management**

- IPv4 Web-based Management Interface
- Firmware upgrade through Web interface
- Configuration backup / restore through Web interface
- Reset button for system reset to factory default

3. PRODUCT SPECIFICATION

3.1 MAIN COMPONENT

Switch ASIC:	Realtek RTL8389L	x1
Gigabit Ethernet PHY:	Realtek RTL8218	x3
Web Controller:	Realtek RTL8389L	x1
POE Control	Microsemi PD69012	x 2

3.2 FUNCTION SPECIFICATION

Product	**GSW-2400HPS**
Hardware Specification	
Copper Ports	24 10/ 100/1000Base-T RJ-45 Auto-MDI/MDI-X Ports
PoE Injector Port	24 802.3af / 802.3at PoE Injector Ports
LED Indicators	**System:** Power (**Green**) **PoE Ethernet Interfaces** PoE In-Use (**Orange**) 1000 LNK / ACT (**Green**), 10/100 LNK / ACT (**Orange**)
Switch Processing Scheme	Store-and-Forward
MAC Address Table	8K entries
Switch Fabric	48Gbps / non-blocking
Throughput @ 64Kbytes	35.7Mpps
Share Data Buffer	3.5Mbit SRAM Packet Buffer
Flow Control	IEEE 802.3x Pause Frame for Full-Duplex. Back pressure for Half-Duplex
Jumbo Frame	9216 Bytes
Power Consumption	Max. 330 watts / 1125 BTU

Power Requirements	AC 100~240V, 50/60Hz, 4A max.
Power over Ethernet	
PoE Standard	IEEE 802.3af Power over Ethernet / PSE IEEE 802.3at Power over Ethernet Plus / PSE
PoE Power Output	Per Port 52V DC, 300mA. Max. 15.4 watts (IEEE 802.3af) Per Port 52V DC, 600mA. Max. 30 watts (IEEE 802.3at)
PoE Power Budget	300 watts
Number of PDs, 7Watts	24
Number of PDs, 15.4Watts	19
Number of PDs, 30.8Watts	9
Layer 2 Function	
Management Interfaces	IPv4 Web Browser
Port Configuration	Port disable / enable Auto-negotiation 10/100/1000Mbps full and half duplex mode selection Flow Control disable / enable Display each port's state, speed duplex mode, flow control status
Port Statistics	Display each port's state, link status, packet transmit / receive counter
VLAN	802.1Q Tagged Based VLAN Up to 32 VLAN groups, out of 4094 VLAN IDs
QoS	• 4 priority queues on all switch ports • Traffic classification based, Strict priority and Weight Fair Queue / Weighted Round Robin (WRR) policies - Port-based priority
Trunk	Static Trunk Features 8 groups of 4-port trunk support
Port Mirroring	Port mirroring allows monitoring of the traffic across any port in real time
Port Isolation	Yes
Bandwidth Control	Ingress / Egress Rate Limit per port
Storm Control	Broadcast / Multicast / Unknown-Unicast / Unknown-Multicast
Jumbo Frame	1522 / 1536 / 1552 / 9216bytes Jumbo packet setting
Loop Protection	Loop Prevention / Detection
Green Networking	Enable / Disable
Security	MAC Security – MAC Forwarding Table – Static MAC MAC Constrain
Cable Diagnostics	Support
Configuration Management	Configuration backup / restore through Web interface
Firmware Upgrade	Web interface
Standards Conformance	

Standards Compliance	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.3ab 1000Base-T IEEE 802.3x Flow Control IEEE 802.1p QoS IEEE 802.1Q VLAN Tagging IEEE 802.3af Power over Ethernet IEEE 802.3at High Power over Ethernet

3.3 PHYSICAL SPECIFICATIONS:

- **Dimensions:**

  445 x 207 x 45 mm (W x D x H), 1U height

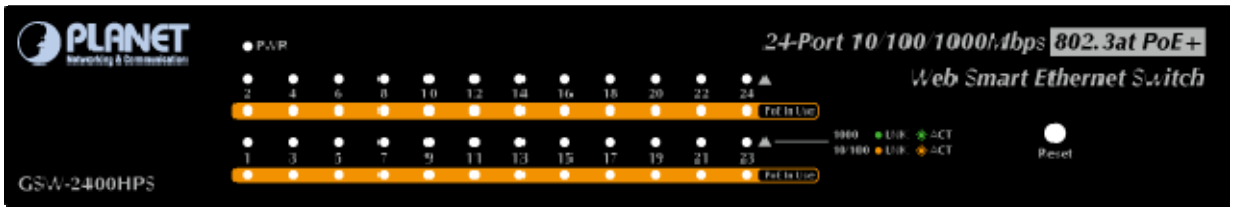
- **Weight:**

  2.76kg

- **Front Panel:**

- **Rear Panel:**

- **LED Definition**



System

LED	Color	Function
PWR	**Green**	**Lights** to indicate that the Switch has power.

■ **10/100/1000Base-T interfaces**

LED	Color	Function	
1000 LNK/ACT	**Green**	**Lights**:	To indicate the link through that port is successfully established at 1000Mbps.
		Blink:	To indicate that the switch is actively sending or receiving data over that port.
10/ 100 LNK/ACT	**Orange**	**Lights**:	To indicate the link through that port is successfully established at 10Mbps or 100Mbps.
		Blink:	To indicate that the switch is actively sending or receiving data over that port.
PoE In-Use	**Orange**	**Lights**:	To indicate the port is providing 52VDC in-line power.
		Off:	To indicate the connected device is not a PoE Powered Device (PD)

3.4 ENVIRONMENTAL SPECIFICATION

Operating:

Temperature: 0°C ~ 50 degrees C

Relative Humidity: 5% ~ 95% (non-condensing)

Storage:

Temperature: -10°C ~ 70 degrees C

Relative Humidity: 5% ~ 95% (non-condensing)

3.5 ELECTRICAL SPECIFICATION

AC Power Input Voltage:		100~240V, 50/60Hz, 4A max.
Power Consumption(System on):	110V	**11** watts / 37BTU
	220V	**10** watts / 34BTU
Power Consumption (Ethernet Full Load):	110V	**25** watts / 85BTU
	220V	**24** watts / 81BTU
Power Consumption (Ethernet Full Load):	110V	**304** watts / 1037BTU
	220V	**303** watts / 1033BTU

3.6 REGULATORY COMPLIANCE

FCC Part 15 Class A, CE

3.7 REALIABILITY

MTBF > 50,000 hrs @ 25 Degree C

3.8 BASIC PACKAGING

■ GSW-2400HPS x1

■ Quick Installation Guide x1

■ User's Manual CD x1

■ Power Cord x1

- Rubber Feet x4
- 19” Rack Mount Accessory Kit x1

3.9 PACKING DIMENSION

Dimension: Box	555 mm (W) × 295 mm (D) × 88 mm (H)
Dimension: Carton	580 mm (W) × 395 mm (D) × 325 mm (H)
Weight(Total):	14.2kg (Gross Weight)
	4pcs in one carton